CLAIMS

What is claimed is:

1.   A method comprising:

updating a cyclic redundancy checks (CRC) sum calculated from a data stream of CRC protected packets by adding new data while subtracting an effect of old data; and

checking the updated CRC sum for a predetermined result.

2.   The method of claim 1, further comprising:

initializing a m-length buffer and an n-length accumulator to calculate the CRC sum; and

storing the data stream in the m-length buffer.

3.   The method of claim 2, wherein adding the new data comprises performing an exclusive-or operation between the accumulator and a predetermined feedback CRC polynomial.

4.   The method of claim 2, wherein subtracting the effect of old data comprises performing an exclusive-or operation between the accumulator and a predetermined CRC polynomial extrapolated to the m-th power corresponding to the most significant bit of the m-length buffer.

5.   The method of claim 2, wherein the m-length buffer and the n-length accumulator are initialized only once.

6.   A network receiver adapted to carry out the method of claim 2.

7.   A method comprising:

initializing a m-length buffer and an n-length accumulator;

storing a m-length data stream in the buffer;

accumulating a remainder of m-length data by bits in an n-length accumulator;

combining a predetermined n-length CRC polynomial extrapolated to the m-th power with the n-length accumulator;

combining a predetermined n-length CRC polynomial with the n-length accumulator; and

checking the accumulator for a predetermined result.

10

8.	The method of claim 7, wherein the combining the n-length CRC polynomial includes performing the exclusive-or operation on the n-length accumulator and the n-length CRC polynomial corresponding to active bits in the predetermined n-length CRC polynomial; and

wherein the combining the n-length CRC polynomial extrapolated to the m-th power with the n-length accumulator includes performing the exclusive-or operation between the n-length accumulator and the n-length CRC polynomial extrapolated to the m-th bit.

9.	A network receiver adapted to carry out the method of claim 8.

10.	The method of claim 8, wherein the m-length buffer and the n-length accumulator are initialized only when the receiver is turned on.

11.	A system comprising:
calculation means for updating a CRC sum computed from an accumulated data stream having data blocks protected by CRC by adding new data and subtracting out old data; and
validation means for comparing the updated CRC sum to a predetermined result to identify a complete data block protected by CRC.

12.	The system of claim 11, wherein the calculation means further comprises:
feedback means for feeding data back into the accumulator according to a predetermined CRC polynomial of length n; and
subtraction means for subtracting the effect of old data from the means for accumulating.

13.	The system of claim 12, wherein the subtraction means comprises extrapolating a predetermined CRC polynomial to a m-th term and performing an exclusive-or operation with the means for accumulating the data stream.

14.	A receiver to scan for data packets protected by CRC comprising:
a m-length memory to store a data stream;
an n-length accumulator to accumulate a CRC sum from the data;
a remainder circuit to feedback the data leaving the accumulator to the accumulator

based on a predetermined CRC polynomial;

a subtraction circuit to remove the effect of data leaving the memory from the accumulator; and

a CRC sum validation circuit to check the CRC sum for a valid result to indicate that the data packet protected by the CRC is located.

15. The receiver of claim 14, wherein the m-length memory and the n-length accumulator are initialized to a predetermined value when power is supplied to the receiver.

16. The receiver of claim 14, wherein the memory is a buffer.

17. The receiver of claim 14, wherein the memory is tangible media capable of being read by a machine.

18. The receiver of claim 14, wherein the subtraction circuit includes a predetermined CRC polynomial extrapolated to the m-th term and an exclusive-or is performed using the extrapolated CRC polynomial and the accumulator.

19. The receiver of claim 18, wherein the data is input into the memory and the accumulator by bits.

20. The receiver of claim 18, wherein the data is input into the memory and the accumulator by bytes.